

U.S. Patent Application No. 09/075,392  
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### ABSTRACT

An instrument for PCR comprising an assembly, a heated cover, and a computer. The assembly can include a sample block, Peltier devices, and a heat sink, clamped together. The sample block temperature can be changed by controlling the Peltier devices with the computer. A perimeter heater can be used to improve thermal uniformity. A heated platen can push down onto tube caps to apply a minimum force for seating the tubes. The force can be applied about the periphery of the tube caps to prevent distortion of the caps. The platen can be heated to provide thermal isolation and prevent evaporation from the surface of the sample. The software can include diagnostics to compensate for variation in thermoelectric coolers such that all instruments can perform identically.